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**APPENDIX C:**  
**EIR REQUIREMENT**

**NOTICE THAT AN  
ENVIRONMENTAL IMPACT REPORT  
IS DETERMINED TO BE REQUIRED**

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**Date of this Notice:** March 15, 1997

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**Lead Agency:** Planning Department, City and County of San Francisco  
1660 Mission Street Street - 6th Floor, San Francisco, CA 94103-2414

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**Agency Contact Person:** Paul Maltzer

**Telephone:** (415) 558-6391

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**Project Title:** 96.544E - Sutro Tower  
Digital Television Antennas

**Project Sponsor:** Sutro Tower, Inc.

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**Project Contact Person:** Debra Stein, GCA Strategies

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**Project Address:** At Sutro Tower, on top of Mount Sutro

**Assessor's Block(s) and Lot(s):** 2724/ 3

**City and County:** San Francisco

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**Project Description:** Proposed addition of a new 125-foot-long beam, with digital television antennas attached, to Sutro Tower. The existing Sutro Tower reaches a maximum height of about 975 feet. The proposed new beam and antennas would be attached to the tower between the north and south legs, on the east face, at a height ranging from about 630 feet to 755 feet above ground. The project is proposed in response to a Federal Communications Commission mandate that commercial television broadcast stations shift to Digital Television signal transmission as the next generation of technology for television broadcasting. The proposed antennas would be subject to a Discretionary Review hearing by the City Planning Commission.

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**THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED.** This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Section 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

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Deadline for Filing of an Appeal to the City Planning Commission of this Determination that an EIR is required: **April 4, 1997**. An appeal requires: 1) a letter specifying why an EIR should not be prepared, and; 2) a \$209.00 filing fee.

  
\_\_\_\_\_  
Hillary E. Gitelman  
Environmental Review Officer



## **96.544E - SUTRO TOWER DIGITAL TELEVISION ANTENNAS**

### **SUMMARY OF POTENTIAL ENVIRONMENTAL EFFECTS**

The proposed project, as described in the attached Notice, is the addition of a new 125-foot-long beam, with new Digital TV Antennas, near the top of Sutro Tower. The project is proposed in response to a Federal Communications Commission mandate that commercial television broadcast stations shift to Digital Television signal transmission as the next generation of technology for television broadcasting. The new beam and antennas would hang down from the upper cross beam on Sutro Tower, between the north and south legs of the tower, on the east face. The beam would be situated from approximately 630 to 755 feet above ground level.

Pursuant to California Environmental Quality Act Guidelines Section 15060, the Planning Department has determined that an Environmental Impact Report (EIR) will be required for the proposed project, and will begin preparation of said EIR.

Potential environmental effects related to the following environmental features and issues will be considered in the EIR:

- public health effects
- visual quality/aesthetics
- land use/zoning
- public services and utilities, including interference with other transmission signals
- energy
- noise
- transportation
- air quality/climate
- biology
- geology and soils
- hazardous materials
- water quality/supply issues
- archaeological and historic resources
- population and growth inducement

Construction related, or temporary effects, will be considered as well as operational, or permanent effects. Mitigation measures for potential impacts which are identified will be discussed, as appropriate. Possible Alternative projects will also be discussed and analyzed in the EIR.



## 9.1 DEFINITIONS

**anechoic.** Typically a chamber lined with material that absorbs sound or radiofrequency energy and does not reflect it.

**asthenic syndrome.** Condition of generalized weakness, not commonly utilized as a diagnostic category in the United States.

**artifact.** An erroneous finding in a scientific investigation often as the result of an unintended contamination or influence or an improper procedure; e.g. a high fever was found but it was a result of a mistaken procedure that left the thermometer in the sunlight

**bradycardia.** Decrease in heart rate.

**calcium efflux.** Involving altering the amount of calcium binding to cells and tissues.

**cancer clusters** Observations in a localized population of a higher number of a specific cancer (e.g., leukemia, brain tumor, etc.) or total cancer than is expected from data for the general population as a whole; such clusters may be the result of either the non-random fluctuations which occur in any statistical sampling or a true causal factor in the local population; a simple demonstration of such clustering occurs upon inspection of the number of salt crystals in several small circular regions after scattering salt on a surface—some regions will have many more crystals than others although, and because, the overall scatter was random; investigations of cancer clusters often do not lead to an identified causal agent because clusters occur with surprising frequency in large populations (e.g., county-wide, state-wide or nation-wide groups) or perhaps because of unidentified transient events (e.g., infectious disease or a toxic release); however, a fundamental premise of epidemiology is that disease in certain groupings of people (including clusters) have a cause which lies in factors of the environment, diet, genetic composition, or lifestyle

**carcinogenic.** Capable of causing cancer.

**cohort.** Entire group or set of subjects used in an epidemiologic investigation.

**control.** To test or verify by a parallel standard or other standard of comparison.

**decibel (dB).** A relative unit for the measurement of the amplitude of a quantity; typically used to measure the strength of radiofrequency power, radiofrequency radiation (electromagnetic fields), and the amplification factor of an electronic amplifier; the decibel is one-tenth of a bel; the decibel is defined as a logarithmic quantity so that 3 decibels represents a factor of about 2, 10 decibels represents a factor of 10, 20 decibels represents a factor of 100, 30 decibels a factor of 1000, etc.

**denature.** To treat by chemical or physical means so as to alter its original state.

**diathermy.** The localized elevation of temperature in body tissues by radiofrequency electric currents, microwaves, or ultrasound for therapeutic purposes.

**direct current (DC).** An electric current that remains steady and does not change strength or direction over time.

**dosimetry.** The measurement of dose; in radiofrequency research calculations and measurements of exposure in terms of power density and SAR.

**electric field.** Radiation from an electric source.

**electromagnetic field (EMF).** The form of energy which surrounds an electric charge; especially the energy surrounding a device such as an antenna.

**errors of commission.** An act of the subject making the wrong choice during an experiment.

**extremely low frequency (ELF).** The portion of the electromagnetic spectrum from zero to 300 Hz.

**field.** The form of energy arising from a localized source of charge or current.

**fluoroscopy.** Examination by means of X-ray against a screen coated with a fluorescent substance.

**gene.** A region of DNA in the cell nucleus containing specific hereditary traits.

**glomerular.** Of the inner portion of the kidney.

**handling.** Holding/treating laboratory animals so they become accustomed to humans

**hemolysis.** Loss of hemoglobin, cell breakdown.

**hertz (H).** Unit for measuring frequency of an alternating electric current or any repetitive activity. One hertz equals one cycle per second.

**histopathologic.** Pertaining to the cells and tissues of diseased or abnormal tissue.

**hormone.** Chemical substances, often produced by glands in the body that are circulated in the blood to control cellular functions; e.g., pituitary gland hormones carry messages from the brain to cells in the body

**hyperthermia.** Elevation of tissue temperature above normal by absorption or generation of heat; muscle activity; hot environments and microwave irradiation are typical means to achieve hyperthermia.

***in vitro.*** Within an artificial environment, especially for cells and tissues tested in glass or plastic vessels.

***in vivo.*** Within a living organism.

**ionizing radiation.** frequencies are the highest (above  $10^{19}$  hertz) of all electromagnetic waves. It yields enough energy to expel an electron from a molecule.

**juxtamedullary.** Area around the medulla, the inner portion of the kidney.

**kilovolt (kV).** One thousand volts.

**lossy.** Capable of dissipating energy and producing heat.

**magnetic field (MF).** A moving electric charge exerts a force on other moving charges; field produced by an electric current.

**microwaves.** Electromagnetic radiation with a frequency above 300 MHz and below 300 GHz; a form of nonionizing radiation.

**mitosis.** Process of cell reproduction or division.

**modulation.** Time-varying changes in a radiofrequency emission which permit encoding of information for purposes like radio, cellular telephones, television, fax transmissions, and computer connections via a modem; modulation may involve changing signal amplitude, frequency, or phase; pulse modulation is a special class of amplitude modulation in which the signal is shifted from zero (off) to full power (on) and may be combined with additional forms of modulation during the on time.

**mutagenic.** Causing mutations to cells.

**non-ionizing radiation.** Energy level of these electromagnetic waves is too low to eject electrons from (or ionize) atoms or molecules.

**phase.** Timing of an alternating (AC) electric current.

**prolate-spheroidal.** Sphere elongated along its polar axis.

**promoter.** This is an agent that accelerates growth of malignant tumors.

**sham.** Imitation; feigned.

**physiologically significant amount of heat.** An energy input sufficient to stimulate a change or changes in thermoregulatory body functions such as sweating, breathing rate, and blood flow rate, or to cause changes in cellular functions such as firing rates of nerve cells and beating rates of heart cells, or to cause changes in biochemical functions such as activity levels of enzymes and amounts of proteins produced by cells

**tachycardia.** Increase in heart rate.

**terata.** Anatomical aberrations.

**teratogenic.** Causing anatomical aberrations

**thermal levels.** Levels related to heating of a body or cells.

**thermoelastic.** Deformation of a substance within its elastic range due to heat change.

**voltage.** Measure of electric tension which is measure in volts (V).

**watt.** Equal to the power in a circuit of one ampere flows across a potential difference of one volt.

## 9.2 ACRONYMS

**AChE.** Acetylcholinesterase

**ACTH.** adrenocorticotrophic hormone

**A/m.** amperes per meter

**AM.** amplitude-modulated

**ANSI.** American National Standards Institute

**ARRL.** American Radio Relay League

**ARMS.** adjusted root mean square

**ATP.** adenosine triphosphate

**BBB.** Blood-brain barrier

**CI.** confidence interval

**cm<sup>2</sup>.** square centimeter

**CNS.** central nervous system

**CS.** conditional stimulus

**CS.** corticosterone

**CW.** continuous-wave

**dB.** decibel

**DENA.** di-ethyl-nitroso-amine

**DTV.** digital television

**EEG.** electroencephalogram

**ELF.** extremely low frequency

<b>EMF.</b> electromagnetic field	<b>mW.</b> milliwatt (one thousandth of a watt)
<b>EMP.</b> electromagnetic pulse	<b>mV.</b> millivolt
<b>EPA.</b> Environmental Protection Agency	<b>Na<sup>+</sup>.</b> sodium ion
<b>FCC.</b> Federal Communications Commission	<b>NK.</b> natural killer
<b>FI.</b> fixed-interval	<b>NTSC.</b> National Television Standards Committee
<b>FM.</b> frequency modulation	<b>OR.</b> odds ratio
<b>FOB.</b> functional observational battery	<b>OSHA.</b> Occupational Safety Health Administration
<b>GHz.</b> gigahertz (1 billion hertz)	<b>PEP.</b> Primate Equilibrium Platform
<b>GMP.</b> guanosine triphosphate	<b>pps.</b> pulses per second
<b>Hb.</b> hemoglobin	<b>PSC.</b> posterior subcapsular cataract
<b>HMBA.</b> hexamethylene bisacetamide	<b>PSCI.</b> posterior subcapsular iridescence
<b>Hz.</b> hertz	<b>RBC.</b> red blood cell
<b>IEEE.</b> Institute of Electrical and Electronic Engineers	<b>RFR.</b> radiofrequency radiation
<b>INIRC.</b> International Non-Ionizing Radiation Committee	<b>RMS.</b> root mean square
<b>IR.</b> infrared radiation	<b>RR.</b> relative risk
<b>IRPA.</b> International Radiation Protection Association	<b>SAR.</b> specific absorption rate
<b>IRT.</b> interresponse-time	<b>SCC.</b> Standards Coordinating Committee
<b>J/g</b> joules per gram	<b>SD</b> standard deviation
<b>K<sup>+</sup>.</b> potassium ion	<b>SMR.</b> standardized mortality ratio
<b>kg.</b> kilogram (1,000 grams)	<b>TD.</b> time discrimination
<b>kHz.</b> kilohertz (1,000 hertz)	<b>TLV.</b> threshold limit value
<b>LDH.</b> lactic acid dehydrogenase	<b>TPA.</b> 12-O-tetra decanoyl phorbol-13-acetate; tumor promoting agent
<b>MEL.</b> murine erythroleukemic	<b>μW.</b> microwatt (one millionth of a watt)
<b>MPE.</b> maximum permissible exposure	<b>μW/cm<sup>2</sup>.</b> microwatt per square centimeter
<b>MHz.</b> megahertz (1,000,000 hertz)	<b>UCS.</b> unconditional stimulus
<b>MI.</b> myocardial infarction	<b>UWB.</b> ultrawideband
	<b>V/m.</b> volts per meter
	<b>W/m<sup>2</sup>.</b> watts per square meter



